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10/806,273

03/23/2004

Horst Flechtner

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EXAMINER

TO, TUAN C

ART UNIT

PAPER NUMBER

3663

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/806,273 | Applicant(s) FLECHTNER ET AL. | |
| | Examiner Tuan C. To | Art Unit 3663 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16, 19, 20 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16, 24-28, 30 and 31 is/are rejected.
- 7) ☒ Claim(s) 19, 20, 23 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: The paragraph numbers on page 13-19 of the proposed specification dated on 09/26/2005 is not in order.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16, 19, 20, and 23-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The former paragraph [0014] does not describe the step of "determining a vehicle acceleration from at least a time differential of vehicle speed, a slope descending angle and a rolling resistance coefficient. None of the disclosures includes such the step. The feature "estimated mass value is obtained" can be found in specification paragraph [0016], but nowhere in the specification includes "determining a collective mass value from the stored plurality of vehicle mass values. In paragraph [0016], the estimated mass value is obtained before evaluating estimated mass values from different driving

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situations. There is no disclosure including "determining a collective mass value from the stored plurality of vehicle mass values".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 16, 24, 26, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leimbach et al. (US 6314383B1), and in view of Luker (WO99/06809).

Regarding claim 16, 30, and 31, Leimbach et al. disclose a system and method for determining a vehicle mass while taking different driving situations into consideration. In Leimbach et al., the mass of the vehicle is determined when the vehicle is traveling either on a roadway slope or when the vehicle is traveling on a street level (Leimbach et al., column 4, lines 16-34). Therefore, Leimbach et al. teaches determining mass value from plurality of driving situations.

Leimbach et al. further teaches in column 3, lines 31-51, determining mass M_{ges} for a vehicle acceleration a_{Fhzg} as the following:

$M_{ges} * a_{Fhzg} = F_{antr} - F_{Roll} - F_{Luft} - F_{Hang} - F_{Rot}$, which reads on the limitation: "the vehicle forces including driving force of a vehicle drive unit, resistance forces resulting from rotational forces, air resistance. The braking force is not mentioned in Leimbach et al., however, such feature is inherent because the vehicle in Leimbach et al. includes a braking system. In Leimbach et al. the total force is equal $M_{ges} * a_{Fhzg}$, thus the mass M_{ges} is obtained by dividing the total vehicle force by the vehicle acceleration a_{Fhzg} .

Luker teaches another method of determining the mass of a motor vehicle comprising: determining a vehicle acceleration from at least a time differential of vehicle speed, a slope descending angle and a rolling resistance coefficient (Luker,

Hence it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Leimbach et al. to include the teachings of braking force as represented in Lalor et al.'s in order to provide vehicle safety while vehicle is traveling on a typical roadway that has a specific coefficient friction.

As to claims 24 and 26, Leimbach et al. teaches that the braking system is control by the braking system controller (102) (figure 1), therefore in order to control such brake system, a braking force is estimated.

Leimbach et al. further teaches "the operating data from the braking system is obtained when braking without slippage between vehicle tires and the roadway" (figure 1).

Claims 25, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leimbach et al. (US 6314383B1), Luker (WO99/06809), and further in view of Matsumoto et al. (US 20010029419A1).

Leimbach et al. and Luker, as in combination, discloses a system and method for determining a vehicle mass while taking different driving situations into consideration. Leimbach et al. fails to disclose: "braking force is determined from a braking pressure and estimated coefficient of friction between a brake lining and a brake disc."

Matsumoto et al. teaches a vehicle system and method in which braking force is determined from a braking pressure and road surface friction coefficient (Matsumoto et al., abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Leimbach et al., Luker, and Matsumoto et al. so that the motor vehicle can travel at a steady state using the vehicle braking force in a manner to avoid obstacles.

Allowable Subject Matter

Claims 19, 20, 23, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 16, 24-28, 30, and 31 have been considered but are moot in view of the new ground(s) of rejection.

The references to Leimbach et al. and Luker are still applied in the rejection because they still suggest the some features as recited in the claims. The new reference to Matsumoto et al. has been found to teach the missing features from Leimbach et al. and Luker.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan C To whose telephone number is (571) 272-6985. The examiner can normally be reached on from 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner,

A handwritten signature in black ink, appearing to read "Tuan C To", is written over a horizontal line.

Tuan C To

March 6, 2007